Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently amended) A method of purifying impure water contaminated with a filterable impurity and a dissolved impurity, the method comprising ~~the steps of~~:

providing a filtration system including a primary microfiltration or ultrafiltration unit and a reverse osmosis unit;

providing the impure water to [[a]] the primary microfiltration or ultrafiltration unit to remove the filterable impurity and produce impure filtered water contaminated with the dissolved impurity;

providing the impure filtered water contaminated with the dissolved impurity to [[a]] the reverse osmosis unit to produce a potable water stream and a residual reverse osmosis stream;

providing a backwash system separate from the filtration system, the backwash system including a secondary microfiltration or ultrafiltration membrane filter;

filtering the residual reverse osmosis stream by passing the stream through [[a]] the secondary microfiltration or ultrafiltration membrane filter to produce a filtered saline solution; and

backwashing the primary microfiltration or ultrafiltration unit with the filtered saline solution.

2. (Cancelled)

3. (Previously presented) The method according to claim 1 wherein the secondary microfiltration or ultrafiltration membrane filter is backwashed.

4. (Previously presented) The method according to claim 1 wherein the secondary microfiltration or ultrafiltration membrane filter is a cartridge filter.

5. (Previously presented) The method according to claim 4 wherein the secondary

microfiltration or ultrafiltration membrane filter is backwashed.

6. (Previously presented) The method according to claim 1 wherein the impure water is sea water.

7. (Previously presented) The method according to claim 1 wherein the filterable impurity includes those typically found in sea water.

8. (Cancelled)

9. (Cancelled)

10. (Previously presented) The method according to claim 1 wherein the dissolved impurity includes sodium ions and chloride ions.

11. (Previously Presented) The method according to claim 1 further comprising treating the residual reverse osmosis stream prior to backwashing by one or more of a chemical treatment, a radiation treatment or a physical treatment.

12. (Previously presented) The method according claim 11 wherein the chemical treatment is selected from the group consisting of chlorination, fluorination, disinfection, scale control treatment, water softening, peroxide, sulfite/bisulfite, ozone and combinations thereof.

13. (Previously presented) The method according to claim 11 wherein the radiation treatment is selected from the group consisting of UV, IR, microwave and combinations thereof.

14. (Previously presented) The method according to claim 11 wherein the physical treatment is selected from the group consisting of ultrasonication, vortexing, and combinations thereof.

15. (Previously presented) The method according to claim 11 wherein the treatment

is selected from the group consisting of heat, electroprecipitation, magnetic treatment and combinations thereof.

16. (Cancelled)

17. (Previously presented) The method according to claim 1 wherein the step of filtering comprises filtering using multiple stages of filtration.

18. (Previously presented) The method according to claim 17 wherein the step of filtering comprises filtering through a coarse filter prior to filtering through the secondary microfiltration or ultrafiltration membrane filter.

19. (Previously presented) The method according to claim 18 wherein the residual reverse osmosis stream is in controllable fluid communication with a coarse backwashable filter selected from the group consisting of a single or multimedia filter, a disc filter, a diatomaceous earth filter, a membrane filter, a strainer, a screen and combinations thereof.

20. (Currently amended) A method of facilitating the purification of impure water, comprising ~~the steps of~~:

providing a primary microfiltration or ultrafiltration unit to produce impure filtered water;

providing a first fluid circuit configured to direct the impure filtered water to a reverse osmosis unit in downstream fluid communication from said primary microfiltration or ultrafiltration unit;

providing a second fluid circuit configured to direct a residual reverse osmosis stream from the reverse osmosis unit to a secondary microfiltration or ultrafiltration unit to produce a filtered saline solution, the second fluid circuit separate from the first fluid circuit; and

providing a controllable fluid pathway for directing the filtered saline solution to backwash said primary microfiltration or ultrafiltration unit.

Claims 21-24. (Cancelled)

25. (Currently amended) A system for purifying impure water contaminated with a filterable impurity and a dissolved impurity comprising:

a filtration system including:

a primary microfiltration or ultrafiltration unit to remove the filterable impurity;

a reverse osmosis unit to produce a potable water stream and a residual reverse osmosis stream, said reverse osmosis unit in downstream fluid communication from said primary microfiltration or ultrafiltration unit; and

a first controllable fluid pathway to transfer a stream of impure filtered water contaminated with a dissolved impurity from the primary microfiltration or ultrafiltration unit to the reverse osmosis unit; and

a backwash system, separate from the filtration system, in fluid communication with a residual reverse osmosis stream outlet of the reverse osmosis unit and a permeate outlet of the primary microfiltration or ultrafiltration unit, and including:

a secondary microfiltration or ultrafiltration membrane filter to filter the residual reverse osmosis stream to produce a filtered saline solution; and

a second controllable fluid pathway directing the filtered saline solution to backwash the primary microfiltration or ultrafiltration unit.

26. (Cancelled)

27. (Cancelled)

28. (Previously presented) The system according to claim 25 further comprising one or any combination of ports for the introduction of chemical agents, irradiation means, ultrasonic generators, vortexing devices, heating elements, electroprecipitators and magnets.

29. (Cancelled)

30. (Previously presented) The system according to claim 25 for purifying impure water contaminated with a filterable impurity and a dissolved impurity further comprising:

a conduit to transfer a residual reverse osmosis stream from the reverse osmosis unit to backwash the primary microfiltration or ultrafiltration unit via the secondary microfiltration or ultrafiltration unit.

31. (Previously presented) The system according to claim 25 wherein the secondary microfiltration or ultrafiltration unit is a backwashable or disposable cartridge microfiltration or ultrafiltration system.

32. (Previously presented) The system according to claim 30 wherein the secondary microfiltration or ultrafiltration unit comprises multiple stages of filtration.

33. (Previously presented) The system according to claim 32 wherein the multiple stages of filtration include a first filtration through a coarse filter prior to filtration through the secondary microfiltration or ultrafiltration membrane filter.

34. (Previously presented) The system according to claim 25 wherein the residual reverse osmosis stream is in controllable fluid communication with coarse backwashable filters selected from the group consisting of single or multimedia filters, disc filters, diatomaceous earth filters, membrane filters, strainers, and screens.